

REMARKS/ARGUMENTS

Claim Amendments

The Applicant has amended claims 1, 4-5, 12 and 17. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-23 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 112

Claim 12 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter as the invention. The insufficient antecedent basis noted in claim 12 has been corrected.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1-3, 6-17, 19-23 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tonai et al (US 6,234,686B1). The Applicants respectfully traverse the rejection of these claims.

The Applicant's present invention discloses an apparatus and method for optical chip installation. The purpose of the invention is to provide a more cost-effective alternative to hermetically-sealed metal capsules. This alternative is accomplished by using an optical hybrid that includes an optical chip and optical fibers connected to the chip and then mounting the optical hybrid to an adapter fixture to position and fasten the optical hybrid to an electronic hybrid. The adapter fixture comprises a mechanical alignment part for mounting the optical hybrid on the electronic hybrid. The combination of hybrids and adapter fixture are then mounted to the lower capsule part, utilizing positioning holes, which includes an airing hole. An airing hole is also part of the upper capsule part. The airing hole prevents the apparatus from trapping moisture (Figures 3, 4, 5 and 6).

The Tonai reference appears to disclose an optical data link that is easy to manufacture and achieves high optical/mechanical accuracy and high reliability (Col. 2, lines 37-39). Tonai is cited for teaching an opto-mechanical interface apparatus

comprising the limitations claimed in the Applicant's claim 1. The Applicant has reviewed the referenced portion of the Tonai reference; figure 9 and the associated description. With regard to the adapter fixture, paragraph 7 of the Detailed Action indicates the labeled parts (8a-d) of figure 9 are equivalent to the adapter fixture of the Applicant's invention. The parts labeled (8a-d) are found in figure 1 and they are disclosed as inner lead pins. The Applicant assumes that the fixture in question is actually the alignment substrate (80) which is more fully described in figure 8. The hole groups in the alignment substrate, 80a-80d, are labeled in figure 8 but not labeled in figure 9. The hole groups in the alignment substrate are for receiving outer lead pins of the light receiving and light emitting modules (30 and 64). The Applicant respectfully submits that the alignment substrate cited in the rejection of claim 1 and the lower capsule in the present invention are not equivalent because the lower capsule includes an airing hole and positioning holes for the optical and electronic hybrid combination.

The lower capsule of the Applicant's present invention is depicted as a single piece and though used as a positioning tool for mounting the combination including the upper capsule part, is also part of the enclosure for the optical electronic hybrid combination. However, as noted in the Detailed Action, the lower capsule part of the present invention is regarded as equivalent to the alignment substrate, the engagement member and the bottom plate (80, 96, and 102 respectively). Figure 9 depicts the three pieces as being mounted to housing (82). The housing of Tonai does not include positioning holes nor does the housing include an airing hole. Use of the three pieces to mount a receiver and transmitter actually teaches away from the Applicant's disclosure of using a single lower capsule part to mount an optical and electronic hybrid and also provide positioning holes for the hybrids' outer leads. This being the case, the Applicant respectfully asserts that the Tonai reference does not teach a two part capsule for enclosing at least part of the combined optical-electronic hybrid. , the Applicant respectfully requests the withdrawal of the rejection of claim 1 and the respective depending claims. Also, claim 11 is analogous to claim 1 and contains similar limitations. This being the case, the Applicant respectfully requests the withdrawal of the rejection of claim 11 and the respective dependent claims.

Claims 4 and 5 are rejected as teaching that the holes (80a-80d) in the alignment substrate (80) meet the limitation claimed by the Applicant of an airing hole (504) provided in the upper capsule part or the lower capsule part. The airing hole in the present invention is specific to avoiding moisture. The "through" hole groups (80a - 80d) in the Tonai reference are intended by Tonai to be filled with the outer lead pins". There is no teaching or suggestion in Tonai of using the "through" holes for avoiding moisture. In fact, the "through" holes are plugged by the outer leads which would restrict the movement of air for preventing moisture. The fact that the Tonai reference describes holes in a substrate does not teach or suggest that these holes are for any purpose other than insertion of outer leads for mounting the light receiving module 30 and light emitting module 64. Respectfully, the Applicant asserts that the Tonai reference does not teach or suggest the airing hole for avoiding moisture.

Prior Art Not Relied Upon

In paragraph 18 on page 6 of the Office Action, the Examiner stated that the prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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